**RICK PATT, MD**

**CITIZENSHIP:** U.S.A.

**EDUCATION**: George Washington University, 1976-1980

Washington, D.C.

B.S., Special Honors in Biology

Georgetown University, 1980-1981

Department of Physiology & Biophysics

Georgetown University, 1981-1985

M.D., School of Medicine

Providence Hospital, 1985-1986

Washington, D.C.

Internal Medicine Internship

Georgetown University Hospital, 1986-1990

Department of Radiology

Diagnostic Radiology Residency

Georgetown University Hospital, 1989-90

Chief Resident, Department of Radiology

Georgetown University Hospital and NIH (National Institutes of Health),1990-91

Division of Body Imaging

Fellowship in MRI, CT, and Ultrasound

Radiology - Pathology Correlation Course, Spring 1988

Armed Forces Institute of Pathology

Washington, D.C.

**EMPLOYMENT:**

**2006-present Principal/Founder, RadMD/BRITI** (current)

Consultancy providing experts to perform independent evaluation of images from clinical trials.

**2000-2008 President, Foresight Consulting LLC**

Pipersville, PA

Provide medical imaging consulting services to pharmaceutical, medical device, managed care, and biotech industries.

**2005-2008 Staff Radiologist**

 Doylestown Hospital

 Doylestown, PA

**2001-2003 Medical Director, HealthHelp, Inc.**

 New York, NY

 Radiology management services organization.

**1997-2000 Director, Medical Imaging Clinical Development**

**Associate Director, Medical Imaging Clinical Development**

 Berlex Laboratories

 340 Changebridge Road, P.O. Box 1000

 Montville, NJ 07045

Direct and manage clinical development of radiologic, ultrasound, and, nuclear, and MRI contrast agents for US subsidiary of largest global imaging agent pharmaceutical company.

**1991-1997**  **Director, Magnetic Resonance Imaging**

 **Chief, Body MRI**

Georgetown University Medical Center

#### Department of Radiology

3800 Reservoir Road, Northwest

Washington, DC 20007

Managed MRI clinical, research, teaching, and business operations.

**CERTIFICATION**

**AND LICENSURE:** F.L.E.X. Parts 1 & 2, June 10, 1986 (District of Columbia)

American Board of Radiology, 11/25/1991

Commonwealth of Pennsylvania MD423210

**MEDICAL SOCIETIES**: Radiological Society of North America

American College of Radiology

Bucks County Medical Society

Pennsylvania Radiology Association

Pennsylvania Medical Society

**PUBLICATIONS:**

Silverman PM, Patt RH, Baum PA. *Ghost Artifact on Gradient Echo Imaging: A Potential Pitfall in Hepatic Imaging*. AJR 1990; 154:633‑634.

Nelson MC, Stull MA, Teitelbaum GP, Patt RH. *MRI of Peripheral Soft Tissue Hemangiomas*. Skeletal Radiol 1990; 19:477‑482.

Rajan SS, Patt RH, Carvlin MJ, et al. *An Extended‑Length Coil Design for Peripheral MR Angiography.* Mag. Res. Imaging 1991; 9:493‑495.

Silverman PM, Patt RH, Garra B, et al. *MR Imaging of the Portal Venous System: Value of Gradient Echo Imaging as an Adjunct to Spin Echo MR*. AJR 1991; 157:297‑302.

Lossef SV, Rajan SS, Calcagno D, Jellinger E, Patt RH, Barth KH. *Spontaneous Rupture of an Adventitial Cyst of the Popliteal Artery: Confirmation with MR Imaging*. JVIR 1992; 3:95‑97.

Lossef SV, Rajan SS, Patt RH, et al. *Gadolinium Pentatate Enhancement for Magnitude Contrast Magnetic Resonance Angiography of Popliteal‑Tibial Arteries.* Radiology 1992; 184:349‑355.

Patt RH, Hewes LB, Ascher SM. *Kidneys: Combining Morphology and Function.* Body MRI Special Edition, Diagnostic Imaging, June 1993; 36‑40.

Zeman RK, Zeiberg AS, Davros WJ, Ascher SM, Cooper CJ, Weltman DI, Patt RH, et al. *Routine Helical CT of the Abdomen: Image Quality Considerations.* Radiology 1993; 189:395‑400.

Semelka RC, Brown ED, Ascher SM, Patt RH, et al. *Hepatic Hemangiomas: A Multi‑Institutional Study Examining Appearances on T2‑weighted Images and Serial Post‑Gadolinium Gradient Echo Images.*  Radiology 1994; 192:401‑406.

Ascher SM, Arnold LL, Patt RH, et al. *Adenomyosis: Prospective Comparison of MRI and Transvaginal Sonography.* Radiology 1994; 190:803‑806.

Ascher SM, Agrawal R, Bis KG, Brown ED, Maximovich A, Markham SM, Patt RH, and Semelka RC. *Endometriosis: Appearance and Detection with Conventional and Contrast‑Enhanced Fat‑Suppressed Spin‑Echo Techniques.*  Journal of Magnetic Resonance Imaging 1995; 5:251‑257.

Zeman RK, Silverman PM, Cooper C, Weltman DI, Ascher SM and Patt RH. *Helical (Spiral) Computed Tomography: Implications for Imaging of the Abdomen.* Gastroenterology Clinics of North America 1995; 2:183‑199.

Zeman RK, Silverman PM, Ascher SM, Patt RH, Cooper C, Alkawas F. *Helical CT of the Pancreas and Biliary Tract.* Radiologic Clinics of North America. 1995; 33:5.

Ascher SM, Agrawal R, Bis KG, Brown ED, Maximovich A, Markham SM, Patt RH, Semelka RC. *Endometriosis: Appearance and Detection with Conventional, Fat Suppressed, and Contrast Enhanced Fat Suppressed, Spin Echo Techniques* Journal of Magnetic Resonance Imaging 1995; 5:251-257.

Zeman RK, Silverman PM, Cooper C, Weltman DI, Ascher SM, Patt RH. *Helical (Spiral) Computed Tomography: Implications for Imaging of the Abdomen.* Gastroenterology of North America 1995; 24:2.

Zeman RK, Berman PM, Silverman PM, Cooper C, Garra BS, Patt RH, Ascher SM. *Billary Tract: Three-dimensional Helical CT Without Cholangiographic Contrast Material.* Radiology 1995; 196:865-867.

Ascher SM, Johnson J, Zeman RK, Patt RH. *Uterine Changes in Women Receiving Tamoxifen Therapy – Prospective Comparison CT MR-Imaging and Transvaginal Sonography With Pathological Correlation.* Radiology 1995; 197:353-354.

Rajan SS, Myers KJ, Grossman LW, Patt RH, Clauw DJ. *Liver Silicone Levels in Patients With Histories of Gel-Filled Breast Implants.* Radiology 1995; 197:322-323.

Zeman RK, Silverman PM, Ascher SM, Patt RH, Cooper C, Al-Kawas F. Helical CT of the Pancreas and Biliary Tract. Radiologic Clinics of North America 1995; 33:887-902

Ascher SM, Johnson JC, Barnes W, Bae CJ, Patt RH, Zeman RK. *Spin Echo and Dynamic Contrast Enhanced Gradient Echo Imaging of the Uterus with Histopathologic Correlation in Postmenopausal Women Receiving Tamoxifen Therapy.* Radiology 1996; 200:105-110

Noone TC, Semelka RC, Lee JK, Worawattanakul S, Patt RH, Ascher SM. *Combined Use of Superparamagnetic Iron Oxide Particles and Gadolinium For the Evaluation of Focal Liver Lesions on MR Imaging.* Radiology 1997; 205:1325.

Semelka RC, Lee JKT, Worawattanakul S, Noone TC, Patt RH, Ascher SM. *Sequential Use of Ferumoxide Particles and Gadolinium Chelate for the Evaluation of Focal Liver Lesions on MRI.* Journal of Magnetic Resonance Imaging 1998; 8: 670-674.

Ascher SM, O’Malley JM, Thomasson D, Rajan SS, Patt RH, Semelka. Non-Breath-hold vs. Breath-hold T2-weighted Fast SE Imaging of the Uterus. Journal Magnetic Resonance Imaging 1999; 9:384-390

**NC Balci, RC Semelka, RH Patt, D Dubois, JA Freeman, A Gomez-Caminero and JT Woosley.**

**Complex renal cysts: findings on MR imaging.** American Journal of Roentgenology, Vol 172, 1495-1500, 1999.

Federle, Michael P.,Chezmar, Judith l., Rubin, Daniel l., Weinreb, Jeffrey C., Patt, Richard H., et al. "Safety and efficacy of mangafodipir trisodium (MnDPDP) injection for hepatic MRI in adults: results of the US multicenter phase III clinical trials (safety)." *Journal of Magnetic Resonance Imaging* 12.1 (2000): 186-197.

Heywang-Köbrunner S., Fischer U., Müller-Schimpfle M., Bick U., Bradely W., Boné B.,

Casselmann J., Coulthard A., Oellinger H., Patt R. False negative classifications based on

quantiative analysis of the IIBM study. What can we learn? Eur Radiol. 2000; 10-159

Heywang-Köbrunner SH, Bick U, Bradley WG, Boné B, Casselman J, Coulthard A, Fischer U, Müller-Schimpfle M, Oellinger H, Patt R, Teubner J, Friedrich M, Newstead G, Holland R, Schauer A, Sickles EA, Tabar L, Waisman J, Wernecke KD. International Investigation of breast MRI: results of a multicenter study (11 sites) concerning diagnostic parameters of contrast-enhanced MRI based on 519 histopathologically correlated lesions. Europ Radiol 2001;11: 531-546

Shamsi, K., & Patt, R. H. Onsite image evaluations and independent image blinded reads: close cousins or distant relatives?. *Journal of Clinical Oncology*2009; *27*(12), 2103-2104.

Breitbach Caroline J., Burke James, Jonker Derek, Stephenson Joe, Haas Andrew R., Chow Laura Q.M., Nieva Jorge, Hwang Tae-Ho, Moon Anne, Patt Richard, Pelusio Adina, Le Boeuf Fabrice et al. *Intravenous delivery of a multi-mechanistic cancer-targeted oncolytic poxvirus in humans* Nature 2011; 477:99-102

[Breitbach CJ, Arulanandam R, De Silva N, Thorne SH, Patt R, Daneshmand M, et al. Oncolytic Vaccinia virus disrupts tumor-associated vasculature in humans. Cancer Res 2013;73:1265–75](http://cancerres.aacrjournals.org/lookup/volpage/73/1265?iss=4)

**ABSTRACTS:**

Patt RH, Lossef SV, Rajan SS, et al. *Optimizing MR Angiography of Popliteal‑Tibial Arteries*. Presented at RSNA Annual Meeting, Nov.25 ‑ 30, 1990; Chicago, IL.

Patt RH, Silverman PM, Garra B, et al. *Comparison of MR, CT, and Color‑Flow Doppler in Evaluation of Renal Tumor Vascularity*. Presented at RSNA Annual Meeting, Nov.25 ‑ 30, 1990; Chicago, IL.

Patt RH, Silverman PM, Teitelbaum GP. *MR Imaging of the Portal‑Splenic Venous System*. Scientific Paper at AUR Annual Meeting, May 21‑25, 1989; Seattle, WA.

Patt RH, Teitelbaum GP, Barth KH. *Optimizing Imaging Techniques in Post‑Angioplasty MRI Angiography*. Scientific Paper at AUR Annual Meeting, May 21‑25, 1989; Seattle, WA.

Nelson MC, Stull MA, Patt RH.  *MR Imaging of Peripheral Soft Tissue Hemangiomas*. Scientific Exhibit at AUR Annual Meeting, May 21‑25, 1989; Seattle, WA.

Patt RH, Teitelbaum GP, Silverman PM. *Gradient Echo Imaging of the Portal System*. Presented at 1st Annual MR Angiography Workshop, March 9‑10, 1989; Case Western Reserve Hospital; Cleveland, OH.

Patt RH, Teitelbaum GP, Silverman PM. *Comparison of Spin Echo to Gradient Echo and Cine Techniques in Evaluation of the Portal System*. Presented at 1989 RSNA Annual Meeting, Nov.26 ‑ Dec.1; Chicago, IL.

Rajan SS, Patt RH, Carvlin MJ. *Improved MR Angiography With a New Extended‑Length Transmit‑Receive Angiographic Coil*. Presented at 1989 RSNA Annual Meeting, Nov.26 ‑ Dec.1; Chicago, IL.

West MS, Zemen RK, Garra BS, Silverman PM, Horii SC, Hayes WS, Cooper C, Patt RH. *Imaging Spectrum and Clinical Implications of Gallbladder Wall Varices*. Presented at 1989 RSNA Annual Meeting, Nov.26 ‑ Dec.1; Chicago, IL.

Patt RH, Rajan SS, Carvlin MJ. *Peripheral MRA with the Extended‑Length Transmit‑Receive Angiographic (EXTRA) Coil*. Presented at 2nd Annual MR Angiographic Workshop, Jan.8 ‑ 9, 1990; VAMC/UCSF; San Francisco, CA.

Coordinator, MR Angiography/Rapid Imaging Workshop. Georgetown University Hospital, March 1, 1990; Washington, DC.

Nelson MC, Patt RH, Freedman MT. *MR Evaluation of the Brachial Plexus: Pre and Post Gadolinium‑DTPA*. Presented at 1990 ARRS Meeting, May 13 ‑ 18; Washington, DC.

Rajan SS, Lossef SV, Patt RH, et al. *Contrast Agent Enhanced Magnetic Resonance Angiography of Popliteal‑Tibial Arteries*. Poster Presentation, Society of Magnetic Resonance in Medicine Annual Meeting, August 10‑16, 1991; San Francisco, CA.

Patt RH, Zeman RK, Nauta R, et al. *Vascular Encasement by Pancreaticobiliary Neoplasms: Assessment with Dynamic CT, Spin‑Echo MR, and Gradient Echo MR Imaging.* Scientific Paper at 1991 RSNA Annual Meeting, December 1‑6; Chicago, IL.

Ascher SM, Arnold LL, Patt RH, et al. *Adenomyosis: Prospective Comparison of MRI and Transvaginal Sonography*. Scientific Exhibit at 1993 Society of Magnetic Resonance Imaging Annual Meeting, March 27‑31; San Francisco, CA.

Khanna A, Patt RH, Rajan SS, Swain S, et al. *High Resolution 3D Dynamic Breast MR: Findings in 28 Suspicious Lesions*. Scientific Paper at Southern Medical Association 87th Annual Meeting, October 28‑31, 1993; New Orleans, LA.

Patt RH, Rajan SS, Ascher SM, et al. *Optimization of Techniques for Dynamic MR Imaging of the Breast*. Scientific Exhibit at 1993 RSNA Annual Meeting, November 27‑December 3; Chicago, Il.

Rajan S, Jarso S, Patt RH, Ascher SM. A New Small FOV Coil for Pelvic Imaging. Presented at the Society of Magnetic Resonance Imaging Annual Meeting, March 1993. San Francisco, CA.

Patt RH, Marchand T, Ascher SM, et al. *The Appearance of the Normal Breast During the Menstrual Cycle Using Dynamic Contrast‑Enhanced MRI.* Accepted for presentation, ARRS Annual Meeting, April 24‑29; New Orleans, LA.

Patt RH, Rajan SS, Ascher, SM. *Contrast‑Enhanced 3D Breast MRI: Preoperative Evaluation of Suspicious Masses with Pathologic and Mammographic Correlation .* Accepted for presentation, 1994 American Roentgen Ray Society Annual Meeting, April 24‑29; New Orleans, LA.

Semelka RC, Brown ED, Ascher SM, Patt RH, et al. *Hepatic Hemangiomas: A Multi-Institutional Study Examining Appearances on T2-Weighted Images and Serial Post-Gadolinium Gradient Echo Images.* International Society of Magnetic Resonance in Medicine Annual Meeting, August 7-12, 1994; San Francisco, CA.

Khana A, Patt RH, et all. *High Resolution 3-D Breast MR: Findings in 28 Suspicious Lesions.* Southern Medical Association 87th Annual Meeting, October 28-31, 1995; New Orleans, LA.

Wu CY, Patt RH, Freedman MT, Mun SK. *Diagnosis of Breast Cancer by MRI: A 3D Computer Visualization and Analysis System.* Medical Imaging 1996: Image Display, February 11-13, 1996; Newport Beach, CA.

Ascher SM, Johnson JC, Patt RH, Zeman RK. Prospective Comparison of MRI and Transvaginal Sonography in Women on Tamoxifen Therapy with Pathologic Correlation. Presented at the Society of Magnetic Resonance Annual Meeting, August 1995. Nice, France.

Ascher SM, Johnson JC, Patt RH, Zeman RK. Uterine Changes in Women Receiving Tamoxifen Therapy: Prospective Comparison of MR Imaging and Transvaginal Sonography with Pathologic Correlation. Presented at the Radiological Society of North America Annual Meeting, November 1995. Chicago, IL.

[Wu, Chris Y.](http://spie.org/scripts/search.pl?qs=spie&db_key=&aut_xct=YES&author=Wu,%20Chris%20Y%2e), [Patt, Richard H.](http://spie.org/scripts/search.pl?qs=spie&db_key=&aut_xct=YES&author=Patt,%20Richard%20H%2e), [Freedman, Matthew T.](http://spie.org/scripts/search.pl?qs=spie&db_key=&aut_xct=YES&author=Freedman,%20Matthew%20T%2e), [Mun, Seong K.](http://spie.org/scripts/search.pl?qs=spie&db_key=&aut_xct=YES&author=Mun,%20Seong%20K%2e), *Diagnosis of breast cancer by MRI: a 3D computer visualization and analysis system* Proc. SPIE Vol.2707, p.87-96, Medical Imaging 1996: Image Display, Yongmin Kim; Ed.

**BOOKS:**

*Contrast-Enhanced MRI of the Breast*, Springer, 1996, New York. Heywang-Kobrunner S, Beck R, Hilbertz T, and Patt R.

**INVITED LECTURES, GUEST PROFESSORSHIPS:**

**(**Available on request)

**PROFESSIONAL SERVICE:**

National Cancer Institute (NCI) Breast MRI Advisory Board

Reviewer for following journals: Radiology; American Journal of Roentgenology

Board Member (prior), MICAA – Medical Imaging Contrast Agent Association